

REMARKS

Claims 1-26 are pending. Claims 1-6, 8-11, 13, 15-16, 18-19, 21-23, and 25-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillis et al. (U.S. Pat. No. 5,323,447) in view of Kostic et al. (U.S. Pat. No. 6,549,784). Dependent claims 7, 12, 14, 17, 20, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gillis et al. in view of Kostic et al. and further in view of Souissi et al. (U.S. Pat. No. 6,327,300).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (MPEP § 2143).

Here, the combination of Gillis et al. and Kostic et al. fails to teach all the claimed limitations. For example, claim 1 recites, "A method of controlling frequency hopping wireless communications between first and second frequency hopping wireless communication devices, comprising: *the first device determining that a first frequency of a frequency hopping pattern associated with transmissions by the second device is better than a second frequency of the frequency hopping pattern for transmission of a selected communication from the second device to the first device via a wireless communication link, wherein the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the second device to the first device that most closely precedes the selected communication; responsive to said determining step, the first device instructing the second device via the wireless communication link to deviate from the frequency hopping pattern and use the first frequency for transmission of the selected communication instead of the second frequency; and responsive to said instructing step, the second device transmitting the*

selected communication on the first frequency via the wireless communication link.” (emphasis added).

First, claim 1 requires a frequency hopping pattern having a first frequency and a second frequency. The step of determining requires the first device to determine that the first frequency is better than the second frequency. The instant application discloses such a frequency hopping pattern f_{1-24} at Figure 1. By way of example, the first frequency is f_8 and the second frequency is f_{14} . Gillis et al. and Kostic et al. fail to disclose such a frequency hopping pattern having first and second frequencies. Gillis et al. disclose first and second groups of channels. The first group includes 50 channels is used during a frequency hopping cycle. (col. 4, lines 9-18). The second group includes other channels that may be substituted for channels in the first group. (col. 4, lines 21-33). If the frequency hopping pattern of Gillis et al. is taken as the first group of channels having the second frequency, then the better first frequency must come from the second group of channels. But channels of the second group are not a part of the frequency hopping pattern as required by claim 1.

Alternatively, if the frequency hopping pattern of Gillis et al. is taken as the first group of channels after the first frequency is substituted for the second frequency, then the second frequency is no longer a part of the frequency hopping pattern as required by claim 1. Moreover, the substitution of the first frequency for the second frequency produces a different frequency hopping pattern. For either interpretation, therefore, Gillis et al. fail to disclose a frequency hopping pattern having the first and second frequencies. Thus, claims 1-8 are patentable under 35 U.S.C. § 103(a).

Furthermore, claim 1 requires that the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the second device to the first device that most closely precedes the selected communication. Referring to Figure 1 of the instant application, the second frequency f_{14} is specified for a selected communication. The first frequency f_8 , which was used

for a most closely preceding communication from the second device (Slave 1), is used again in lieu of the second frequency f_{14} . (page 8, line 13 through page 9, line 9). These limitations are neither taught nor suggested by Gillis et al. or Kostic et al. Examiner states that "it would have been obvious to a person of ordinary skill in the art to determining the first frequency is the one that most closely precedes the selected communication." Applicant respectfully disagrees. It was not obvious to either Gillis et al. or Kostic et al. Moreover, Examiner has failed to offer any explanation why it might be obvious. Thus, claims 1-8 are patentable under 35 U.S.C. § 103(a).

Claim 9 recites "A method of controlling frequency hopping wireless communications between first and second frequency hopping wireless communication devices, comprising: *the first device determining that a first frequency of a frequency hopping pattern associated with transmissions by the first device is better than a second frequency of the frequency hopping pattern for transmission of a selected communication from the first device to the second device via a wireless communication link, wherein the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the first device to the second device that most closely precedes the selected communication; responsive to said determining step, the first device using said most closely preceding communication and the first frequency to inform the second device via the wireless communication link that the first device will deviate from its frequency hopping pattern and use the first frequency for transmission of the selected communication instead of the second frequency; and responsive to said informing step, the second device receiving the selected communication via the wireless communication link on the first frequency.*"

Referring to Figure 8 (page 17, lines 1-12) of the instant specification for example, a first device (MASTER) determines that a first frequency f_7 is better than a second frequency f_{13} . Both frequencies f_7 and f_{13} are specified by the frequency hopping pattern f_1 - f_{24} . The first device (MASTER) transmitted a most recent communication on the first frequency f_7 . (Before SLAVE 1 transmission on f_8). The first device (MASTER) transmits a hopping extension for master bit (HEMB=1) on frequency f_7 , thereby informing the second device (SLAVE 1) that it will deviate

from the frequency hopping pattern (f_{13}) and use the first frequency f_7 . In response, the second device (SLAVE 1) receives on the first frequency f_7 . (Before SLAVE 1 transmission on f_{14}).

As previously explained, the combination of Gillis et al. and Kostic et al. is very different. The combination fails to disclose first and second frequencies that are part of the same frequency hopping pattern as required by claim 9. Furthermore, the combination fails to disclose "the first frequency is specified by the frequency hopping pattern for a communication from the first device to the second device that most closely precedes the selected communication" as required by claim 9. For example, if the second frequency of claim 9 is from the first set of Gillis et al., then the first frequency must also be from the first set and used for a transmission that most closely precedes the selected communication. This is not disclosed. Gillis et al. disclose selecting a completely different frequency from a second set of frequencies to substitute for the inadequate frequency of the first set. Thus, applicant respectfully submits that claims 9 and depending claims 10-12 are patentable under 35 U.S.C. § 103(a) in view of Gillis et al. in view of Kostic et al.

Claims 13 recites "a determiner for *determining whether a first frequency of a frequency hopping pattern associated with transmissions by a further frequency hopping wireless communication apparatus is better than a second frequency of the frequency hopping pattern* for receiving a selected communication transmitted by the further apparatus, wherein *the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the further apparatus to said apparatus that most closely precedes the selected communication.*" Claim 16 recites "a wireless communication interface for receiving from a further frequency hopping wireless communication apparatus via a wireless communication link *an indication that a first frequency of a frequency hopping pattern associated with transmissions by said apparatus is better than a second frequency of the frequency hopping pattern* for transmission of a selected communication from said apparatus to the further apparatus via the wireless communication link, wherein *the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a*

communication from said apparatus to the further apparatus that most closely precedes the selected communication." (emphasis added).

Gillis et al. combined with Kostic et al. fail to disclose first and second frequencies that are part of the same frequency hopping pattern as required by independent claims 13 and 16. As previously explained, when the base unit 10 (Figure 1) determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Gillis et al. disclose replacing an inadequate frequency from a first set with another frequency of a second set. Since the inadequate frequency is from a first set and the replacement frequency is from a second set, they cannot both be from the same frequency hopping pattern as required by claims 13 and 16. Furthermore, Gillis et al. and Kostic et al. fail to disclose "the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication . . . that most closely precedes the selected communication" as required by claims 13 and 16. Neither Gillis et al. nor Kostic et al. disclose such an arrangement. Gillis et al. simply replace an inadequate frequency from a first set with a frequency from a second set. There is no disclosure that the frequency from the second set was ever used previously and certainly not for a communication that most closely precedes the selected communication. Thus, applicant respectfully submits that claims 13-18 are patentable under 35 U.S.C. § 103(a) over Gillis et al. in view of Kostic et al.

Independent claims 19 and 23 and depending claims 20-22 and 24-26 are rejected as being unpatentable over by Gillis et al. in view of Kostic et al. and further in view of Souissi et al. under 35 U.S.C. § 103(a). Examiner states Gillis et al. discloses all claimed subject matter "except explicitly specify the first frequency that the most closely precedes the selected communication of second frequency." (Paper 7, pages 5-6). For all the foregoing reasons, applicant respectfully disagrees.

Claim 19 recite "a determiner for determining whether a first frequency of a frequency hopping pattern associated with transmissions . . . is better than a second frequency of the frequency hopping pattern . . . wherein the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication . . . that most closely precedes the selected communication." Claim 23 recites "a wireless communication interface for receiving from a further frequency hopping wireless communication apparatus via a wireless communication link a first communication on a first frequency specified for said first communication by a frequency hopping pattern associated with transmissions by the further apparatus, said first communication including an indication that said first frequency is better than a second frequency of the frequency hopping pattern for transmitting via the wireless communication link a second communication from the further apparatus to said apparatus that most closely follows said first communication, wherein the second frequency is specified by the frequency hopping pattern for the second communication." (emphasis added).

Gillis et al. combined with Kostic et al. fail to teach or suggest first and second frequencies that are part of the same frequency hopping pattern as required by claim 19. As previously explained, when the base unit 10 (Figure 1) determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Since the inadequate frequency is from a first set and the replacement frequency is from a second set, they cannot both be from the same frequency hopping pattern as required by claim 19. Furthermore, Gillis et al. and Kostic et al. fail to disclose the first and second frequencies are designated by the frequency hopping pattern for a communication that most closely precedes the selected communication (claim 19) or a second communication that most closely follows said first communication (claim 23). A combination of Gillis et al. and Kostic et al., therefore, fails to disclose a claimed subject matter. Thus, applicant respectfully submits that claims 19-26 are patentable over by Gillis et al. in view of Kostic et al. under 35 U.S.C. § 103(a).

Applicant acknowledges the rejections of claims 7, 12, 14, 17, 20, and 24 under 35 U.S.C. § 103(a), but considers them moot in view of the present response as discussed.

In view of the foregoing, applicant respectfully requests reconsideration and allowance of claims 1-26. If the Examiner finds any issue that is unresolved, please call applicant's attorney by dialing the telephone number printed below.

Respectfully submitted,



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